

HOLDING DEVICE  
FOR SLIDERS

Cross-Reference To Related Application

5 [001] This application is based on and claims priority from provisional patent Application Number 60/429,627 filed on November 27, 2002.

Technical Field

[002] The present invention relates to sliders for reclosable bags, and more particularly, to holding devices for sliders.

Background Art

10 [003] The use of reclosable bags for the storage of items is well known. Such bags are used to store a variety of articles, from food to general household items including everything from work supplies to children's toys. Often, such bags include a closure  
15 device or mechanism in the form of mating male and female closure elements that are occluded over a width of the bag in order to close the bag. This can be a problem for many people with large fingers or people with manual dexterity problems. In the past, this problem has been solved by adding a slider on the closure device, wherein the slider can be moved along the width of the bag to open and close the bag. For some individuals, a  
20 slider does not have a large enough gripping area, and hence, the user may still have difficulty in opening and closing the bag.

[004] Goodman U.S. Patent No. 3,399,429 discloses a clamping device. The clamping device includes a back plate with a clamping structure extending therefrom. The clamping structure includes a clamping roller movably arranged between the clamping structure and  
25 the back plate. The clamping roller can be pushed upwardly to insert an article to be clamped and to remove the article. The back plate can be attached by any conventional means to a horizontal or vertical surface.

[005] Froehlich, Jr. U.S. Patent No. 3,600,764 discloses a clip for gripping and holding articles such as clothing. The clip includes two leg members joined together by a spring  
30 loop, wherein the leg members terminate in inwardly projecting gripping portions. An article is pulled between the inwardly projecting gripping portions of the leg members and

frictional force between ends of those members hold the article in place. The clip is usually used in combination with a rod for hanging clothing.

5 [006] Welch U.S. Patent No. 4,356,600 discloses a bag closure device including a torsional spring closure assembly. The closure assembly has a mouth that is movable from an open position to a closed position wherein the torsional spring biases the mouth towards the closed position.

[007] Groth U.S. Patent No. 4,394,791 discloses a closure clamp for use with food bags. The clamp includes a pair of clamp members connected by a hinge and a torsion spring for holding the members together. The torsion spring provides a clamping force between the holding members for holding on to a food bag.

10 [008] Wear et al. U.S. Patent No. 4,899,974 discloses a sign or poster holding device. The device includes an elongate body portion having a flat back wall and a curved front wall. Bottom portions of each wall meet to form jaws. The jaws include ribs that perform a gripping action on an object placed therebetween. The device may further be hung or secured to a wall or shelf.

15 [009] Lemke U.S. Patent No. 5,467,949 discloses a clamping hanger for sealing and storing food storage bags. The hanger includes a rectangular base adapted to be mounted to a surface and a one-piece clamping member attached to a surface of the base. The clamping member includes two arcuate-shaped jaws that converge to form a mouth. The mouth includes an enlarged guideway that tapers into a slit. A consumer may insert an end of the bag in the mouth and slide the bag through the slit wherein the slit frictionally retains the bag therebetween.

### Summary of the Invention

25 [0010] In accordance with one aspect of the present invention, a holding device for moving a slider of a thermoplastic bag in a first direction includes a base surface and a pair of holding members extending from the base surface and insertable over a slider in a first direction and facilitating movement of the slider in a second direction.

30 [0011] In accordance with another aspect of the present invention, a holding device for a slider of a thermoplastic bag includes a base surface and a pair of holding members extending from the base surface wherein the holding members are insertable over the

slider in a first direction. Forces applied to the holding device are transmitted to the slider to move the slider in a second direction.

[0012] In accordance with yet another aspect of the present invention, a method for moving a slider closure of a thermoplastic bag includes contacting the slider with a holding device, gripping the holding device and bag, and moving the holding device relative to the bag.

[0013] In accordance a further aspect of the present invention, a holding device for a slider of a thermoplastic bag includes a base surface, a pair of holding members extending from the base surface and means for inserting the holding members over the slider in a first direction. The holding members further facilitate movement of the slider in a second direction.

[0014] Other aspects and advantages of the present invention will become apparent upon consideration of the following detailed description and the attached drawings, in which like elements are assigned like reference numerals.

#### Brief Description of the Drawings

[0015] FIG. 1 is a side elevational view of a reclosable thermoplastic storage bag for use with the present invention;

[0016] FIG. 2 is an enlarged side elevational view of a first embodiment of the holding device of the present invention;

[0017] FIG. 3 is an enlarged end elevational view of the embodiment of FIG. 2;

[0018] FIG. 4 is an enlarged end elevational view similar to FIG. 3 of a second embodiment of the holding device of the present invention;

[0019] FIG. 5 is an enlarged end elevational view similar to FIG. 3 of a third embodiment of the holding device of the present invention;

[0020] FIG. 6 is an enlarged side elevational view of a fourth embodiment of the holding device of the present invention;

[0021] FIG. 7 is an enlarged end elevational view similar to FIG. 3 of the embodiment of FIG. 6;

[0022] FIG. 8 is an enlarged side elevational view of a fifth embodiment of the holding device of the present invention;

[0023] FIG. 9 is an enlarged end elevational view similar to FIG. 3 of the embodiment of FIG. 8;

[0024] FIGS. 10-13 are enlarged side elevational views of further embodiments of the holding device of the present invention;

5 [0025] FIG. 14 is an enlarged side elevational view of a reclosable thermoplastic storage bag utilizing the holding device according to the fifth embodiment of the present invention;

[0026] FIG. 15 is an enlarged top isometric view of a further embodiment of the present invention;

10 [0027] FIG. 16 is an enlarged end elevational view of the embodiment of FIG. 15;

[0028] FIG. 17 is an enlarged sectional view taken generally along the section lines 17-17 of FIG. 16; and

[0029] FIGS. 18 and 19 are enlarged end elevational views of further embodiments of the present invention.

#### Description of the Preferred Embodiments

15 [0030] The holding device 20 of the present invention is adapted for use with a reclosable bag 22 with slider 24 as seen in FIG. 1. The reclosable bag 22 includes first and second body panel portions 26, 28 joined together to form first and second bag walls 30, 32. The first and second bag walls 30, 32 are joined at first and second side portions 34, 36, respectively, and at a bottom portion 38. An opening 40 and a closure mechanism 42 are disposed at a top portion 44 of the bag 22, wherein the slider 24 is positioned over the closure mechanism 42 and can be moved along a width of the bag 22 to open and close the closure mechanism 42. The closure mechanism 42 may be in the form of a thermoplastic zipper.

20 [0031] Now referring to FIGS. 2 and 3, a first embodiment of the holding device 20 of the present invention includes a base surface 52 and two resilient holding members 54a, 54b parallel to one another and extending from and perpendicular to the base surface 52. The holding device 20 further includes a channel 56 extending fully therethrough wherein the channel 56 has a width W1 greater than a thickness of the closure mechanism 42. A chamber 58 is located in a center 60 of the holding device 20. The chamber 58 extends

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along a majority of a length of the channel 56, but ends slightly before a first end 61 and a second end 62 of the holding device 20. The chamber 58 also has a width W2 larger than the width W1 of the channel 56. The chamber 58 is in the shape of a slider and is slightly larger than the slider to which the holding device 20 may be engaged.

5 [0032] Optionally, in any of the embodiments disclosed herein, a magnet 64 may be attached to an outer surface 66 of one or both of the holding members 54a, 54b as seen in FIGS. 3 and 7, or to an outer surface of the base surface 52 as seen in FIG. 4, preferably an outer surface 66 that is relatively flat. Whether or not the holding device 20 is engaged with a slider 24 of a reclosable bag 22, the magnet 64 attached to the holding device 20  
10 can be secured to a magnetic surface to suspend the reclosable bag 22 therefrom. Other miscellaneous items such as papers or coupons can also be held under the magnet 64. Other attachment means can be used to secure the holding device 20 to a wall or other surface including a hook and loop fastener (commonly referred to as a Velcro™ fastener) (FIG. 9), an adhesive, double-sided adhesive tape (FIG. 5), one or more screws or nails, a  
15 hook, or the like.

[0033] The holding device 20 of FIGS. 2 and 3 is insertable over the slider 24 in a first direction by pulling the holding members 54a, 54b outwardly in opposite directions perpendicular to the holding members 54a, 54b, sliding the holding device 20 over the slider 24, and allowing the holding device 20 to return to its original shape. One or both  
20 of the holding members 54a, 54b may include an inwardly-directed tab 67a or 67b that is disposed in interfering relationship with one or more portions 69a and 69b of the slider 24 when the holding device 20 is in the undeformed state. Further, the holding device 20 can be removed from a slider 24 by performing the same steps and sliding the holding device 20 off of the slider 24 instead of onto the slider 24.

25 [0034] One or more grasping members 68a, 68b as seen in FIG. 4 may also be provided on a bottom portion 70 of one or both of the holding members 54a, 54b that facilitate grasping by a user so that the user can easily move the holding members 54a, 54b away from one another. Optionally, a notch or undercut portion 74 as seen in FIG. 5 may be formed in the bottom portion 70 of one or both the holding members 54a, 54b. The notch  
30 74 offers a place for a user to grip the holding device 20 with a finger or fingernail in order to pull the holding members 54a, 54b away from one another.

[0035] Once the holding device 20 is attached to the slider 24, a user may use the holding device 20 to facilitate the opening and closing of the closure mechanism 42 of the bag 22. This is done by gripping both the holding device 20 and bag 22 and moving the holding device 20 relative to the bag 22.

5 [0036] In another embodiment of the holding device 20 as seen in FIGS. 6 and 7, the holding members 54a, 54b are hinged together at a center 77 of the base surface 52 and a coil spring 78 biases the holding members 54a, 54b toward the positions shown in FIG. 7. The holding members 54a, 54b may include first and second clip members 80 and 82, respectively. When a user squeezes the first and second clip members 80, 82 toward one  
10 another, bottom portions 83a and 83b of the holding members 54a, 54b, respectively, move away from one another, thus increasing the distance between the bottom portions 83a and 83b. At this point, the user may place the holding device 20 over the slider 24 and the clip members 80, 82 may be released, thereby causing the bottom portions 83a and 83b to move toward one another under the force of the spring 78 to capture the slider 24  
15 therebetween. The holding device 20 is removed from the slider 24 by squeezing the clip members 80 and 82 together, thereby moving the holding members 54a, 54b out of interfering relationship with the slider 24 so that the holding device 20 can be removed therefrom.

[0037] Regardless of the embodiment, the holding device 20 can have various shapes and  
20 sizes. For example, the holding device 20 can be in the shape of a child's toy, such as a toy truck as seen in FIGS. 8 and 9. The holding device 20 of this embodiment is similar to those of FIG. 2 and 3, except that the base surface 52 and holding members 54a, 54b form the shape of the truck. The holding device 20 can take the shape of other objects, such as a toy train, car, truck, plane, doll, crayon, or cartoon characters. Other shapes can include  
25 a flower, different types of animals and insects (e.g., a ladybug), a gift as seen in FIG. 10, holiday decorations (an example of which can be seen in FIG. 11), food items, or sports items such as a baseball, a basketball (FIG. 12), or a football (FIG. 13).

[0038] FIG. 14 shows a reclosable bag 22 having a holding device 20 in the shape of a truck engaged with a slider (not seen) of the bag. Once engaged with the slider, the  
30 holding device 20 is grasped by a user and is moved from the side portion 34 to the side portion 36 and back to the side portion 34 to open and close the bag 22.

[0039] FIGS. 15-17 illustrate a further embodiment of the present invention. The holding device 20 is similar to that of FIGS. 8 and 9 with a few exceptions. First of all, a chamber 58 extends along the majority of a length of the channel 56, but ends slightly before a first end 61 and continues fully through to a second end 62 of the holding device 20. The holding device 20 of FIGS. 15-17 includes a flange member 90 extending from the base surface 52 near a top of the channel 56. A clip member 92 is disposed at an end 94 of the flange member 90 to facilitate manual grasping and movement of the flange member 90 toward and away from the base member 52. As seen in FIG. 17, a tab 96 extends from a bottom surface 98 of the flange member 90, wherein the tab 96 is positionable in interfering relationship with a portion of the slider as noted in greater detail hereinafter to prevent movement of the slider out of the holding device 20.

[0040] In order to insert the holding device 20 of FIGS. 15-17 over a slider, a user initially positions the holding device over the closure mechanism 42 such that the second end 62 is disposed adjacent the slider 24. The user then moves the tab 96 upwardly and slides the second end 62 of the holding device 20 over the slider 24 until the slider 24 is fully inserted into the chamber 58. The user may then release the tab 96 whereupon the tab 96 returns to its original position and provides an interference with the slider 24 to retain the holding device 20 on the slider 24. To remove the holding device 20 from the slider 24, a user must lift the clip member 92 and tab 96 upwardly, thus eliminating the interference, thereby allowing the user to move and thereby remove the device 20 from the slider 24.

[0041] Further embodiments of the present invention are shown in FIGS. 18 and 19 and include a handle 100 that swivels from a pivot point 102 and which is attached in any suitable fashion to the holding members 54a, 54b of the holding device 20. The handle 100 allows a user to grasp the handle 100 and pull the handle 100 in an opening or closing direction. The swiveling handle 100 can be added to any of the embodiments of the present invention. Also, the handle 100 may be formed into or include at a top portion 106 thereof any ornament 104, such as a pet as seen in FIG. 19, or any desired shape, for example, as suggested above.

[0042] The holding device 20 of the present invention is preferably made of a plastic material such as nylon, polystyrene, polypropylene, Delrin®, ABS copolymer, polyester, mylar™, polyurethane, PVC, polyethylene, and vinyl. The holding device 20 can also be

made of metals such as stainless steel and aluminum and foam materials such as urethane foam, polyethylene foam, polypropylene foam, styrofoam, and Volara™ foam.

Industrial Applicability

- 5      **[0043]** Holding devices according to the present invention allow easy opening of a slider of a reclosable bag. Such holding devices include a base surface and a pair of holding members extending from the base surface. The holding members are insertable over a slider in a first direction and the holding device is movable in a second direction transverse to the first direction.
- 10     **[0044]** Numerous modifications to the present invention will be apparent to those skilled in the art in view of the foregoing description. Accordingly, this description is to be construed as illustrative only and is presented for the purpose of enabling those skilled in the art to make and use the invention and to teach the best mode of carrying out same. The exclusive rights to all modifications which come within the scope of the appended
- 15     claims are reserved.